



Evaluate the Quality of Life using the KDQOL-SFTM Questionnaire

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Abstract: The purpose of the study: To assess the quality of life (QOL) of patients undergoing hemodialysis (HD) treatment using the Kidney Disease Quality of Life Short Form (KDQOL-SFTM) questionnaire, which includes sections specific to dialysis therapy.

Material and methods: Using the KDQOL-SF questionnaire, 48 patients who were treated with HD were examined.

Results: It is shown that patients with HD are distinguished by low job satisfaction- 0.0 [0.0-50.0] (Me[IQR]) on the scale of "labor status". A low score on the "burden of kidney disease" scale was established - 31.3 [18.8-50.0]. The highest scores were obtained on the scales of "cognitive functions" – 86,9 [66,7–93,3], "the qualities of social interaction" – 80,0 [66,7–93,3], "social functioning" – 62,5 [50,0–87,5], "mental health" – 60.8±18.1 (M±SD). Among the most significant stress factors is limited the ability to travel and restrictions in fluid intake (74% and 66% of patients, respectively). The most frequent complaints are muscle pain (50% of patients), fatigue (45%), dizziness (44%), itching (41%), shortness of breath (40%), dry skin (34%).

Conclusion: The KDQOL-SF questionnaire, which takes no more than 15 minutes to complete – 20 minutes, gives important information about the limited possibilities and the most urgent needs of dialysis patients.

Keywords: quality of life, hemodialysis, KDQOL-SF

Introduction

The patient's quality of life (QOL) is one of the important criteria for the effectiveness of treatment and rehabilitation measures. QOL indicators allow you to get an idea of whether the patient considers his life to be full, and, if not, what is the degree of dissatisfaction with life. To assess the health-related

QOL, so-called general questionnaires are widely used [1-3], which allow us to get an idea of the main aspects of QOL in patients of a certain nosology, to make comparisons with a healthy population and with different groups of patients. Special questionnaires designed only for patients with a specific disease or for a group of diseases allow you to catch the specific effect of a certain disease on the quality of life of patients, to better characterize the problematic areas of patients' lives, to compare the effectiveness of various types of therapy. The most useful tool for practical application is such a tool for measuring QOL, which would include both the characteristics of QOL common to various diseases and the parameters specific to a particular disease. In relation to nephrology, such a tool combining the features of a general and special questionnaire is the Kidney Disease Quality of Life Short Form (KDQOL-SFTM), a technique that allows a comprehensive assessment of the quality of life of patients receiving dialysis therapy [4, 5].

The aim of the study was to evaluate the QOL of patients on hemodialysis (HD) using a questionnaire KDQOL-SFTM, which includes sections specific to dialysis patients.

Material and methods

48 patients treated at the department of therapy of the 1st clinic of the Samarkand State Medical Institute were examined. 58% of the total number of examined were men, the average age was 51.6 ± 13.0 years, the median duration of treatment for HD was 52 (17-115) months. The study included patients who had been on HD treatment for at least 3 months. KDQOL-SF, version 1.3, includes 36 questions from SF-36 (general questions for measuring QOL regardless of the type of disease), 43 questions reflecting the specifics of dialysis therapy, and one question that allows you to assess the state of health in general. The questionnaire includes the following eight main scales designed specifically for patients on dialysis: "symptoms/problems", "the impact of kidney disease on daily activities", "burden of kidney disease", "work status", "cognitive functions", "quality of social interaction", "sexual functions", "sleep". Four additional scales are aimed at assessing satisfaction with social support, support from dialysis staff, patient satisfaction with the quality of medical care and self-assessment of the state of health in general. The "raw" scores on each scale of the KDQOL-SF questionnaire are converted to standard, so that the assessment of each sphere of life is made in points from 0 to 100: the higher the score, the better the quality of life.

Results

Table 1 shows the indicators of the scales of the KDQOL-SF questionnaire. Of the scales intended for dialysis patients, the lowest value was noted on the scale of "labor status" (0,0 [0,0–50,0]), the highest is on the scale of "cognitive functions" (86,9 [66,7–93,3]). It should be noted that on the scale of "sexual functions" only the responses of patients who indicated the presence of sexual contacts in the last 4 weeks are quantified. There were 57 such patients, which is 30% of the total number of examined (Table 1). Therefore, the indicator 87.5 [75.0-100.0] does not indicate a high degree of satisfaction with this area within the entire sample of patients.

Table 2 presents the results of a survey of patients' GP about how much they were bothered by various symptoms and limitations during the last month. These data were obtained by analyzing the answers to the questions of the scales "symptoms/problems" and "the impact of kidney disease on daily activities". Most often, patients complained of muscle pain (50% of patients are bothered

Table 1. Indicators of the KDQOL-SF 1.3 scales in patients on hemodialysis

Questionnaire scales KDQOL-SF 1.3	M±SD	Me (IQR)
Scales designed for dialysis patients		
Symptoms/problems (n=48)	73,0±14,5	72,9 (62,5–85,4)
The effect of kidney disease on daily activities (n=48)	66,9±19,5	71,9 (53,1–81,3)
Burden of kidney disease (n=48)	36,3±22,2	31,3 (18,8–50,0)
Employment status (n=48)	31,0±42,1	0,0 (0,0–50,0)
Cognitive functions (n=48)	80,9±16,5	86,9 (66,7–93,3)
Quality of social interaction (n=48)	79,0±16,6	80,0 (66,7–93,3)
Sexual functions (n=14)	81,1±22,5	87,5 (75,0–100,0)
Sleep (n=48)	57,4±19,3	57,5 (42,5–72,5)
Social support (n=48)	69,1±25,9	66,7 (50,0–83,3)
Support from dialysis staff (n=48)	67,0±19,4	75,0 (62,5–75,0)
Satisfaction with medical care (n=48)	53,8±20,9	50,0 (33,3–66,7)
General scales of health-related QOL (SF-36)		
PF (n=48)	56,0±28,2	60,0 (35,0–80,0)
RPF (n=48)	32,2±41,1	0,0 (0,0–75,0)
P (n=48)	60,5±28,0	57,5 (43,8–87,5)
GH (n=48)	36,2±15,9	35,0 (25,0–45,0)
E (n=48)	47,3±19,1	45,0 (35,0–60,0)
SF (n=48)	62,2±27,5	62,5 (50,0–87,5)
REF (n=48)	65,5±43,7	100,0 (0,0–100,0)
MH (n=48)	60,8±18,1	64,0 (48,0–76,0)
Assessment of the state of health in general (n=48)	46,4±16,1	50,0 (40,0–50,0)

Note.

PF – physical functioning, the ability to withstand physical exertion;

RPF - role-based physical functioning (characterizes the influence of physical condition on daily activities);

P– the intensity of pain and the effect of pain on daily activities;

GH – general health;

E - general activity, energy;

SF - social functioning;

REF – role-based emotional functioning (characterizes the influence of emotional state on daily activities);

MH - mental health.

moderately, quite strongly or very much) and fatigue (45%). Patients were also quite often disturbed by attacks of weakness or dizziness (44%), itching (41%), shortness of breath (40%), dry skin (34%). Problems with arterio-venous fistula were relatively rare (79% of patients were not bothered by this

circumstance at all during the last month). Lack of appetite did not bother 54% of patients at all, 50% had no complaints of nausea or upset stomach. According to the data obtained, the most significant stress factor is limited ability to travel (74% of patients experienced moderate, severe or very severe anxiety about this). 66% of patients reported the psychotraumatic effect of restrictions in fluid intake. The least significant are dependence on medical staff (56% of patients did not bother at all), the effect of the disease on sexual life and on appearance (60% and 54%, respectively, did not bother at all). The ability to do homework is not limited at all in 40%.

Discussion

The lowest value was registered on the "labor status" scale, and the highest - on the "cognitive functions" scale, which indicates a low degree of job satisfaction and a fairly high degree of satisfaction with the state of cognitive functions (attention, thinking, responsiveness). Apparently, modern technical methods of conducting HD, as well as the use of psychopharmacological means, make it possible to ensure sufficient preservation of the cognitive functions of patients. Dialysis dementia is a thing of the past, it is possible to successfully cope with the manifestations of the psycho-organic syndrome.

When assessing the employment status, it is taken into account whether the patient has been working for the last four weeks, and whether, from the patient's point of view, the state of his health allows him to work. According to our research, out of the dialysis-specific scales of the KDQOL-SF questionnaire, the score on the labor status scale was the lowest (Table. 1), and among DG patients of working age, the share of workers is only 30% [14]. It is shown that psychological and social factors have a significant impact on the employment of HD patients. For example, one of the most significant independent predictors of the employment of these patients is the level of education: the employability of patients with higher education is 11 times higher than those with secondary or specialized secondary education [17]. Patients with higher education worked in 57% of cases; patients with secondary or secondary specialized education - only in 10% [17]. In working patients, all indicators of QOL are significantly higher without exception [14]. It can be assumed that the presence of interest in life, mental well-being and life satisfaction create prerequisites for work activity. On the other hand, having a job, creative self-realization and material well-being contribute to the formation of a sense of fullness of life.

The results of the study provide information about the main symptoms and stress factors relevant for patients with dialysis treatment (Table 2). Most of all, patients are concerned about muscle pain, fatigue, dizziness, itching, shortness of breath, dry skin. Among the most significant stress factors are the limited ability to travel and restrictions in fluid intake. These data partially coincide with the results obtained by researchers from the USA: the main complaints of dialysis patients are related to according to American authors, with a low energy level, lack of strength, diet and restrictions of the water-drinking regime [4].

Attention is drawn to the low score on the "burden of kidney disease" scale in patients with HD (Table 1). In this scale, patients are asked to evaluate on a five-point scale how true the following statements are in relation to them: "Kidney disease is very prevents me from living a full life", "Kidney disease takes up too much of my time", "I feel very upset when I encounter specific manifestations of my disease", "I feel that I have become a burden to my family". A similar trend was noted in the international DOPPS study [7]: in Japan, the average value on this scale was 28.6, in the USA – 40.8, in a combined sample of European countries, including France, Germany, Italy, Spain and the UK – 35.4. Only the values on the scale of labor status were below this level. After the authors of the DOPPS study carried out corrections for socio-demographic variables, concomitant pathology, complications, hematocrit level, duration of HD therapy, the noted trend persisted. Among the

potential reasons for the differences found between countries in this indicator, these researchers point to differences in the system of organization of medical care and cultural differences [7].

Table 2. Frequency of occurrence of various symptoms and stress factors associated with the treatment of HD (%)

Symptom/stress factor	Not bothered at all	Slightly bothered	Moderately bothered	Pretty much bothered	Very much bothered
Muscle pain	7	5	7	4	2
Chest pain	14	5	4	2	0
Convulsions	12	7	4	1	1
Skin pruritus	10	5	5	4	1
Dry skin	10	7	4	2	2
Dyspnoea	9	6	7	2	1
Attacks of weakness or dizziness	6	8	7	3	1
Lack of appetite	14	5	4	2	0
Fatigue, loss of strength	6	7	7	4	1
Numbness of the hands or feet	11	5	4	2	1
Nausea or upset stomach	13	6	5	0	1
Problems with fistula	20	2	2	1	0
Restrictions on fluid intake	5	4	8	5	3
The need to follow a diet	11	5	7	1	0
Reduced ability to do homework	10	5	6	3	1
Limited ability to travel	4	2	5	5	8
Dependence on medical staff	14	4	5	2	2
Stress or anxiety related to illness	10	7	5	2	1
The effect of the disease on sexual life	15	3	4	1	2
The effect of the disease on appearance	14	4	4	1	2

Analyzing the indicators of the general scales of health-related QOL, I would like to note quite high scores on the scales of the psychosocial component of QOL: mental health, the influence of emotional state on daily activities, social functioning (Table 1). A high score was also registered on the scale of the quality of social interaction, which is part of the dialysis-specific scales (Table 1).

In a chronic stressful situation, when it is impossible to evade the influencing stressor, displacement can play a positive role, allowing coping with circumstances and maintaining mental health [14]. Among the coping strategies characteristic of these patients are "optimism" and "problem solving planning" [18], which are considered constructive ways to overcome difficulties.

The effect of these factors helps to cope with the situation of an incurable disease, lifelong, traumatic from a psychological point of view of treatment and ensures the preservation of the mental health of the patients. The validity of this statement is indirectly confirmed by the fact that, according to researchers from the USA, Canada and European countries, of all the general scales of health-related QOL (SF-36), the smallest difference between patients with HD and healthy individuals is registered on the mental health scale [7, 19].

Conclusion

The questionnaire Kidney Disease Quality of Life Short Form (KDQOL-SFTM) provides valuable information about the quality of life of patients receiving dialysis therapy, allowing you to get a comprehensive picture of the most problematic and safe areas of life, about the main complaints of patients. The questionnaire can be used for individual monitoring of the patient's QOL, in comparative studies of the effectiveness of various types of renal replacement therapy in patients, when conducting cross-cultural comparisons.

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